

1 **REMARKS**

2 Claims 1-6, 8-11, 13-21, and 23 are pending. No claims are amended,  
3 canceled, adding, or withdrawn.

4 Withdrawal of the rejections to the pending claims is respectfully  
5 requested.

6 **35 USC §103(a) Rejections**

7 Claims 1-6, 8-21, and 23 stand rejected under 35 USC §103(a) as being  
8 unpatentable over US patent number 6,609,161 to Young. These rejections are  
9 traversed.

10 **Claim 1** recites

- 11 • “the method for managing a run queue comprising a first plurality of threads  
12 sorted with respect to one another based on thread priority”, and  
13 • “in a deterministic amount of time equivalent to an amount of time to insert a  
14 single thread into the run queue, associating a second plurality of threads that is  
15 priority sorted with the run queue in a manner that maintains a priority based  
16 scheduling semantic of the run queue.”  
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18 In addressing these claimed features and Applicant’s reasons why Young did not  
19 teach or suggest these claimed features (presented in the response dated August  
20 24, 2005), the “Response to Arguments” section at page 6 of the Action argues  
21 that the broadest reasonable interpretation of “run queue” is where  
22 “programs/processes/threads/commands are taken from the head of the queue to be  
23 executed or process[ed]”. In view of this broad interpretation, the Action asserts  
24 that Young meets the limitation of “run queue”. Applicant respectfully disagrees.  
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1 During examination plain meaning is given to a claimed term unless the  
2 specification provides meaning for the term, whereupon which the specification  
3 must be used to identify the meaning ascribed to the term by the inventor. (MPEP  
4 §2111.01). In this case, the Action has not used either the plain meaning of the  
5 claimed term “run queue” or the explicit definition provided by Applicant’s  
6 specification. Instead the Action changes the plain and well-known meaning  
7 typically associated with a “run queue” by substituting its own interpretation that  
8 is completely contrary to the meaning that one of ordinary skill in the art at the  
9 time of invention would have given the term, and also completely contrary to what  
10 is described in the specification for the term.

11 Specifically, it is well-known in the art that a “run queue” is **not for**  
12 **storing rewind, write, compare, verify, or other SCSI commands**, as the  
13 Action asserts. Rather, a “run queue” is for storing threads representing respective  
14 paths of execution through a computer-program (process) for execution by a  
15 computer. Not only was this plain meaning of the use of a “run queue” well-  
16 known at the time of invention, but it is also the use of a “run queue” described in  
17 Applicants specification. In view of this well-known plain meaning and  
18 specification supported description of the purpose of a “run queue”, the Action’s  
19 assertion that the claimed “run queue comprising a plurality of threads” is the  
20 same as Young’s command queue used to store SCSI commands (i.e., not threads  
21 representing process execution paths) is not a reasonable assertion.

22 Applicant respectfully submits that if Young tried to insert such SCSI  
23 rewind, write, compare, verify, or other commands into a “run queue”, such  
24 insertion would likely harm runtime operation of any system that relied on the run  
25 queue to store threads representing a path of execution through a computer-

1 program process, rather than SCSI commands meant to be parsed by a SCSI  
2 compliant peripheral device. In such an illogical scenario, the system's thread  
3 scheduling mechanism would not encounter a thread, but would instead encounter  
4 a rewind, write, compare, verify, or other type of SCSI command. Clearly this  
5 command does not belong in a "run queue", but instead as Young teaches, is for  
6 sending to a target peripheral device. In view of this, Young does not teach a "run  
7 queue comprising a plurality of threads". Rather, Young teaches a SCSI command  
8 queue comprising SCSI commands for subsequent communication to a peripheral  
9 device.

10 In view of the above plain and well-known meaning of the purpose of a  
11 "run queue", Applicant is not attempting to read limitations of the specification  
12 into the claims for purposes of avoiding prior art. Instead, Applicant is merely  
13 relying on a fundamental aspect of patent law that dictates that claimed subject  
14 matter cannot be examined in a vacuum. As §2111.01 states, a term must be  
15 examined in view of plain meaning unless the specification provides meaning for  
16 the term, whereupon which the specification must be used to identify the meaning  
17 ascribed to the term by the inventor. In this case, **the Action has assigned a**  
18 **meaning to a term that is contrary not only to plain and well-known meaning**  
19 **for the term, but also different than meaning given to the term by the**  
20 **inventor.** In light of this, the Action is seemingly relying on personal knowledge  
21 to support this otherwise unsupported meaning ascribed to a claim feature.

22 According to 37 CFR §1.104(d)(2), "[w]hen a rejection in an application is  
23 based on facts within the personal knowledge of an employee of the office, the  
24 data shall be as specific as possible, and the reference must be supported, when  
25 called for by the applicant, by the affidavit of such employee, and such affidavit

1 shall be subject to contradiction or explanation by the affidavits of the applicant  
2 and other persons.” In view of this, and regardless of whether the form of the  
3 Actions’ rejection of claim 1 is proper under MPEP §706.02(j), if this rejection is  
4 maintained on a similar basis in a subsequent action, the Examiner is requested to  
5 supply such an affidavit to support this otherwise unsupported modification to the  
6 SCSI command queue of Young. Otherwise, and without additional support, it is  
7 respectfully submitted the Action’s conclusion does not represent the conclusion  
8 of a person of ordinary skill at the time of invention, and thereby, cannot represent  
9 a “broadest reasonable interpretation” of a “run queue”, as claim 1 requires.

10 Withdrawal of the 35 USC §103(a) rejection of claim 1 is requested.

11 Additionally, claim 1 includes further features that are not taught or  
12 suggested by Young. For example, claim 1 also requires “threads”. When  
13 addressing this feature, the Action at page 7 points out that the term “thread”, as  
14 defined by Microsoft Computer Dictionary Fifth Addition, is “a process that is  
15 part of a larger process or program”. Given this definition, the Action asserts that  
16 the “broadest reasonable interpretation” of a “thread” is met by “a SCSI command  
17 block”. Applicant respectfully submits that this broad interpretation is clearly not  
18 reasonable, especially in light of the explicit definition provided by the referenced  
19 dictionary, which **defines a thread as “a process [...]”, not a command.**

20 Young, at column 2, lines 63-64, teaches that “[e]ach command block  
21 includes a command for target device”. Young describes at column 1, lines 12-  
22 16, that it example of such a control block is a SCSI command block (SCB) used  
23 to transfer information between a software host adapter bus driver and a peripheral  
24 device. **Examples of SCSI commands include, for example, rewind, write,**  
25 **compare, verify, etc.** In contrast to SCSI commands, it is well-known in the art

1 of computer-science and computer programming that a thread within the context  
2 within which it is used (i.e., "part of a larger process or program") is a part of a  
3 computer-program application that can execute independently of other parts of the  
4 computer-program application. In contrast to "threads", SCSI commands cannot  
5 execute independently of other parts of a computer-program application **because**  
6 **SCSI commands are not representative of computer program language paths**  
7 **of execution.** Instead, SCSI commands are blocks of information that upon being  
8 parsed, direct peripheral devices to perform some action such as rewind, verify,  
9 compare, etc. In view of these express teachings of Young, a "SCSI command  
10 block" is clearly not "**a process**", as required by the definition of a thread  
11 provided by the Action. Since a SCSI command is not a process, a SCSI  
12 command cannot be "a process that is part of a larger process or program".

13 In view of the above, Young's express disclosure of a SCSI command does  
14 not meet the definition of a thread that was provided by the Action. Moreover, the  
15 scenario applied above to a "run queue" which is used to store threads can also be  
16 applied to show that a SCSI command is not a thread. Specifically, Applicant  
17 respectfully submits that if Young tried to insert a SCSI command into a system  
18 that typically stores threads into a "run queue", the inserted SCSI command block  
19 would at least temporarily incapacitate the runtime processing operations of the  
20 system. This is because SCSI commands such as rewind, write, verify, compare  
21 and other SCSI commands do not represent a path of execution in a computer  
22 program (i.e., a thread). In such an unlikely scenario, a thread scheduling  
23 mechanism would not encounter a thread as typically expected, but would instead  
24 find a command block of information for a target peripheral device.

1 This is another example of where the Office is seemingly using personal  
2 knowledge to modify the well-known and plain meaning of “threads” that are  
3 stored in a “run queue” by substituting SCSI commands for the threads. Not only  
4 are these modifications unsupported and contrary to the well-known and plain  
5 meaning of the claim term within its presented context, but also contrary to the  
6 clear descriptions of the term in Applicant’s specification.

7 Again, Applicant is not attempting to read limitations of the specification  
8 into the claims for purpose of avoiding prior art. Instead the Applicant is merely  
9 relying on the Office to follow the directions of MPEP §2111.01 and not examine  
10 the claims in a vacuum. Here, the Action has assigned meaning to “threads” that  
11 is not only contrary to plain meaning and what would have normally been ascribed  
12 to the term by a person of ordinary skill in the art at the time of invention, but also  
13 contrary to the written description of “threads” in Applicant specification. Thus,  
14 the Actions broad interpretation of the claimed term “threads” as being the same  
15 as SCSI commands is not reasonable and not representative of the meaning of the  
16 claimed feature of “threads”, as claim 1 requires.

17 For these additional reasons, withdrawal of the 35 USC §103(a) rejection of  
18 claim 1 is requested.

19 **Claims 2-6** depend from claim 1 and are allowable over Young solely by  
20 virtue of this dependency. Accordingly, withdrawal of the 35 USC §103(a)  
21 rejection of claims 2-6 is requested.

22 **Claim 8** recites

- 23 • “[a] system for managing a run queue, the run queue comprising a first  
24 plurality of threads, each thread in the first plurality of threads having a  
25 respective priority, the first plurality of threads being sorted such that a thread

1 having a high priority is removed from the run queue before a thread having a  
2 lower priority”, and

- 3 • “in an amount of time to insert a single thread into the run queue, associating  
4 the second plurality of threads that is priority sorted with the run queue, the  
5 associating maintaining a priority based scheduling semantic of the run queue.”

6 For the reasons already discussed, Young does not teach or suggest these claimed  
7 features.

8 Withdrawal of the 35 USC §103(a) rejection of claim 8 is requested.

9 **Claims 9-11 and 13-15** depend from claim 8 and are allowable over Young  
10 solely by virtue of this dependency. Accordingly, withdrawal of the 35 USC  
11 §103(a) rejection of claims 9-11 and 13-15 is requested.

12 **Claim 16** recites

- 13 • “computer-program instructions to manage a run queue of executable threads  
14 sorted with respect to one another based on thread priority”, and  
15 • “in a deterministic amount of time that is independent of the number of threads  
16 in a second plurality of threads that is priority sorted, the deterministic amount  
17 of time being a time to insert a single thread into the run queue, associating the  
18 second plurality of threads with a first plurality of threads in the run queue in a  
19 manner that maintains a priority based scheduling semantic of the run queue.”  
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21 For the reasons already discussed, Young does not teach or suggest these claimed  
22 features.

23 Withdrawal of the 35 USC §103(a) rejection of claim 16 is requested.  
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1       **Claims 17-21** depend from claim 16 and are allowable over Young solely  
2 by virtue of this dependency. Accordingly, withdrawal of the 35 USC §103(a)  
3 rejection of claims 17-21 is requested.

4       **Claim 23** recites

- 5       • “managing a run queue with a run queue data structure, the run queue data  
6 structure comprising: a first dimension data field comprising a first plurality of  
7 threads sorted with respect to thread priority”, and
- 8       • “a second dimension data field comprising a second plurality of threads sorted  
9 based on thread priority, the second plurality of threads comprising a root  
10 thread and one or more other threads.”

11 For the reasons already discussed, Young does not teach or suggest these claimed  
12 features.

13       Withdrawal of the 35 USC §103(a) rejection of claim 23 is requested.  
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2 **Conclusion**

3 Pending claims 1-6, 8-11, 13-21, and 23 are in condition for allowance and  
4 action to that end is respectfully requested. Applicant has left a voice message on  
5 the Examiner's telephone requesting a telephone interview for this application. To  
6 avoid appeal of this case and move this case towards allowance, Applicant hopes  
7 that the Examiner will allow the pending subject matter at least for the additional  
8 reasons provided above, or at least withdraw the finality of the last action and  
9 perform a new search, if necessary. Should any issue remain that prevents  
10 allowance of the application, the Office is encouraged to contact the undersigned  
11 prior or issuance of an advisory action.

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13 Respectfully Submitted,

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15 Dated: 01/17/2006

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